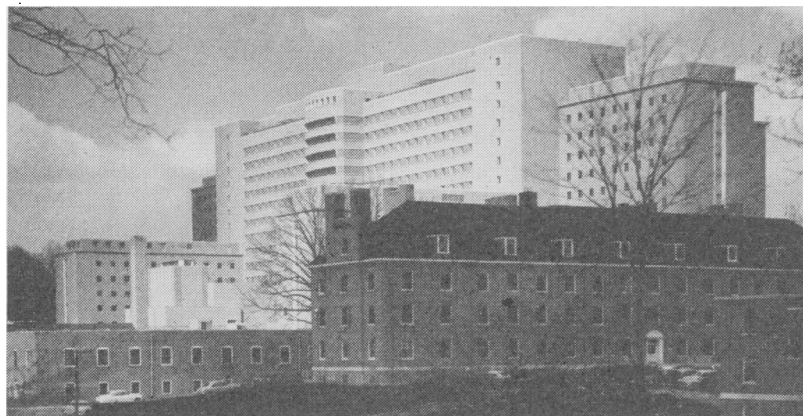


The U. S. Public Health Service Clinical Center



for laboratory and clinical research
in medicine and public health

Symbolic as the shape in which it is built—that of the cross of Lorraine—is the role destined for the new Clinical Center of the National Institutes of Health, the research arm of the Public Health Service in the Department of Health, Education, and Welfare. Here those who travel the paths of laboratory and animal research and clinical investigation will meet and intermingle. Clinical evaluation will flow directly and naturally from basic findings. Laboratory assessment will be immediately available for phenomena observed at the bedside. Knowledge and techniques peculiar to dozens of clinical and scientific specialties can be harnessed to a single problem. These are not new concepts nor new attempts, but they are significant in scope and intensity. There is nothing random in the aim of this research institution. The Center exists to increase the pressures on the points which suggest potentially greatest returns toward the goal of making human lives longer and more productive.

These pages provide some descriptive details of this new research resource, supplementing material published in August 1952 (pp. 819–

823) and with the frontispiece of the August 1953 issue. Following the general “question and answer” and illustrative material will be found the full dedicatory address of the Secretary of Health, Education, and Welfare and excerpts from remarks of the Surgeon General and the director of the National Institutes of Health.

The Clinical Center of the Public Health Service, Department of Health, Education, and Welfare, is an integral unit of the National Institutes of Health, located in Bethesda, Md., approximately 8 miles from the center of Washington, D. C.

The Clinical Center’s construction was authorized in the Public Health Service appropriations act for fiscal year 1948, and its doors opened for admission of study patients July 6, 1953.

Background

Q. How did the concept of a Clinical Center within the Public Health Service arise?

A. The proposal for a “research hospital” where results obtained from laboratory investi-

gations might find clinical evaluation goes back many years. In the 1911 Annual Report of the Public Health Service, for example, the section dealing with the work of the Hygienic Laboratory (later to become the National Institutes of Health) states that "in order to obtain the best results from laboratory research . . . there should be available a hospital to which patients suffering from a particular disease which it is desired to study could be admitted, so that cases could be studied throughout all the stages of the disease."

In 1911 the main need of the Hygienic Laboratory for a hospital was for the pursuit of further information concerning the infectious diseases. But in the years following, proposals for special clinical research facilities were also made for the study of chronic and degenerative diseases, such as cancer, heart disease, mental illness, arthritis, neurological disorders, and dental diseases.

Q. What is the present concept of the Clinical Center?

A. In part, the concept of the Clinical Center today is a logical continuation of the proposals made for such a facility by the Public Health Service in 1911. It is a highly specialized and carefully planned medical research facility serving the seven National Institutes of Health, each of which is allotted laboratory space and, except for the Dental Research Institute, bed space to be managed in terms of the needs of particular research investigations. The physical structure of the Clinical Center, with the close proximity of laboratory and clinical research, answers the present need in medicine to bring the separated scientific and clinical specialties together for a unified attack on disease.

Research

Q. Who determines what disease problems will be studied?

A. Each of the Institutes will select the problems within its field which it wishes to investigate, or two or more Institutes will work out joint research projects on which they will collaborate.

Q. What kinds of problems will be studied in the Clinical Center?

A. In general, studies will be confined almost entirely to those common diseases that are responsible for the greatest mortality and disability among the people of this country. The rare, unusual, or undiagnosed condition will not normally be a subject for study.

Q. What are some representative studies which are projected by the Institutes during the first year of Clinical Center occupancy?

A. **Hormone-producing tumors** will be carried in tissue culture and their endocrinological activity determined by bio-assay of the tissue culture fluid. The study is aimed at clarifying the striking phenomenon of excessive hormone production in endocrine organs undergoing malignant change.—*National Cancer Institute.*

Metabolic balance studies of patients with chronic rheumatoid arthritis. Objective is to study the effect of changes in mineral metabolism that apparently account for some of the effects of the disease on joints; varying levels of protein, mineral and vitamin uptake; the sex hormones, various adrenocortical hormones, and the growth hormone.—*National Institute of Arthritis and Metabolic Diseases.*

Studies of psychosomatic problems often present in such diseases as asthma and ulcerative colitis. An attempt will be made to determine why some patients react to stress by the development of personality disorders and others by the development of functional disorders.—*National Institute of Mental Health.*

Studies of rheumatic fever. This project involves study of types of streptococci associated with the disease, and measurement of antibodies to various streptococcal types and to various chemical fractions of these organisms.—*National Microbiological Institute.*

Studies on epilepsy will be approached through surgical therapy. In conjunction with such therapy, the physiology of the cortex will be studied through electrocorticographic and electrical localization studies. Such investigations might lead to development of new surgical procedures and to the development of new drugs which influence the basic cause of seizures rather than the symptoms.—*National Institute of Neurological Diseases and Blindness.*

Investigations of high blood pressure. A large number of patients will be studied over a long period to observe the natural history of the condition and to find better therapeutic agents or procedures. The hypertensive patients selected for study will probably remain in the Clinical Center for about 1 month for thorough initial study and then return for 2 or 3 days at monthly intervals for followup observation or treatment. Because of the complexity of the medical problem, a great number of laboratory and special research studies will be required in the evaluation of patients. Blood chemistry studies of the most exhaustive types will be carried out, as will metabolic studies with particular reference to diet and drugs.—*National Heart Institute.*

Studies of the periodontal diseases. These investigations will involve such problems as re-attachment of tooth-supporting structures which have become detached or loosened by diseases of the soft tissues of the mouth.—*National Institute of Dental Research.*

Q. What is the relationship between laboratory scientists and clinical investigators in the conduct of research?

A. One of the major goals of the Clinical Center is to bring together in close intellectual and physical proximity virtually all of the clinical and laboratory disciplines. Scientists representing many specialties will be afforded opportunity to exchange ideas and information not only in the course of their studies, but also through casual and informal contacts.

Q. What is the relationship among the various Institutes conducting studies in the Clinical Center?

A. The collaborative nature of much research at the National Institutes of Health will be a significant factor in the overall research program relating to the Clinical Center. Many studies must cut across Institute lines. Hypertension, for example, is not a problem confined to the Heart Institute. It is thought to extend directly into the areas of metabolic and emotional disturbances, and so the study of this entity may involve at least three Institutes. In the Clinical Center, study patients of the seven

Institutes will receive patient care services from the Clinical Center central staff. Thus, the patient care facilities of the Clinical Center become a service to be shared in common by the several research programs.

Q. What is the relationship of outside investigators to the Clinical Center?

A. The Public Health Service will provide opportunities for a limited number of established scientists from other research institutions to work in the Clinical Center, usually for a year or less, on problems of their own choosing. They will be furnished space, equipment, technical help, and professional collaboration. Training opportunities will also be made available to young laboratory scientists and to physicians who have finished general internship and 2 years of residency training, thus enabling them to obtain specialized preparation for careers as independent investigators.

Q. What radiation facilities does the Clinical Center provide?

A. To study the diagnostic and therapeutic application of ionizing radiations, the Clinical Center will devote one entire wing, three stories underground and five above, to radiation therapy and research. Special safety features have been incorporated into the design of this wing—shielding, special ventilating and plumbing, and special laboratory equipment and floor surfaces. A unique feature of the radiation wing is the provision of rooms for patients, making possible supervised control of radioisotopes for diagnosis and treatment. Special laboratories in the radiation wing will be used to prepare medications containing radioisotopes, and for their subsequent extraction, purification, and chemical analysis from excretions and tissues.

Q. What can we expect from the Clinical Center research program?

A. The Clinical Center represents an important addition to the Nation's medical resources. It must be remembered, however, that advances in medical science are gradual and represent the cumulative efforts of thousands of scientists and physicians throughout the world. The Clinical Center is a highly developed laboratory.

Its specialized and diversified staff should help bridge the gap between laboratory and clinical research, and between the various special branches of medical science.

Q. Does the Clinical Center train interns and student nurses?

A. No. However, "clinical fellows" who are the equivalent of second- or third-year residents in the ordinary hospital, may qualify for several of the specialties through service in the Clinical Center. Similarly, graduate nurses will receive special training in the care of patients in broad disease categories and in clinical research nursing.

The Research Patient

Q. What are the standards of admission for patients under study at the Clinical Center?

A. Because research is the main function of the National Institutes of Health, the patients admitted to the Clinical Center by a given Institute must meet the terms of investigation as set by that Institute. He must, therefore, *be chosen for admission* as a subject who has those characteristics of a disease or disorder about which National Institutes of Health scientists are asking questions and hope to find the answers. On occasion, a limited number of "healthy" persons will be admitted in order to establish the normal against which the pathological can be measured. No study patient will be admitted unless he is referred through professional channels.

Q. How will it be determined that patients are suitable for study purposes?

A. The Institutes will ask physicians, hospitals, and clinics to refer to them those patients who appear to meet the needs of particular studies. The diagnosis of the patient by his attending physician and further diagnostic checks at the Clinical Center itself will be of paramount importance in determining suitability of patients for Clinical Center admission.

Q. Will patients with rare diseases or diseases which have not been diagnosed qualify for admission?

A. As a general rule—no.

Q. Where will patients be drawn from?

A. It is believed that most patients will be obtained from the eastern seaboard States (*a*) as a matter of convenience to patients, their families, and their doctors, (*b*) in order to facilitate medical followup, and (*c*) in order to reduce the cost of transportation. Under certain circumstances, especially when the condition to be studied is not prevalent in this area, it will be necessary to admit patients from more distant places.

Q. How long will patients remain in the Clinical Center?

A. This will depend on the nature of the study and the condition of the patient. Some studies may require that patients remain under observation for 6 months to a year. Studies of the acute infectious diseases, however, may require a stay of only a few days to a few weeks.

Certain investigations will require that patients remain at the Clinical Center for several weeks of study, then report periodically to the Center on a followup basis for long periods of time. In a limited number of studies, patients will not be admitted to the Clinical Center as bed patients but will report on a regular basis to the research teams for observation and tests.

Q. Are there any special facilities for care of the long-term patient?

A. The Clinical Center has been built with the understanding that hospitalization for prolonged study demands special facilities. Each room will normally have two patients, except when the condition of the patient requires a private room (as in the case of certain psychiatric studies or patients with infectious diseases). The entire building is air-conditioned, and each patient room has a complete bathroom. On each floor is a solarium with comfortable lounges and chairs for patients and their visitors. Indoor and outdoor recreational facilities have been provided, and a library will be available for patients. It is expected that concerts and movies will be presented in the patients' assembly room on the top floor. Protestant, Hebrew, and Catholic services are

to be conducted regularly in the Center's chapel.

Q. Who will be the patient's physician while he is in the Clinical Center?

A. Each patient will have as his physician a qualified clinician from the Public Health Service staff. He will perform the full range of services and assume the responsibilities of the personal physician for the duration of the patient's stay in the Clinical Center.

Q. What is the relationship of the patient's own physician to the patient while in the Clinical Center and afterward?

A. The patient's own physician will be welcomed in the Clinical Center to visit the patient and confer with the staff. Full reports on each patient will be made at suitable intervals

to the referring physician or institution. On discharge, the patient is referred back to his physician or institution, or both, and the results of treatment and recommendations for further therapy, if desired, will also be made available. In cases requiring followup observation and therapy, appropriate arrangements will be made with the patient's physician.

Q. Does the Clinical Center have medical facilities available for routine treatment of persons in the local area?

A. No. The Clinical Center operates solely as a research facility. The only exception—as is true of all hospitals and clinics—will be the treatment of emergency cases, such as victims of nearby automobile accidents. Such patients will be transferred to the regular general hospitals of the area as soon as it is safe to do so.

The Clinical Center Structure

The Clinical Center is designed in the shape of a Lorraine cross in which the central stem of 14 floors is divided lengthwise by 2 corridors. Rooms for patients are located on the south side, separated by a corridor from nursing and related patient services. Clinical research laboratories are along the north corridor. Fundamental research will be conducted in the 6 wings, each of 11 floors. One of these wings (see drawing) is designed especially for radiation studies.

[For schematic floor plans showing the interrelationships between facilities for patients and the clinical and basic laboratory space, see *Public Health Reports*, August 1952, p. 821.]

Patients are cared for in 2 nursing units on each floor, with 13 rooms and a capacity of 26 patients. Typical rooms (see picture 1) are 17 feet long by 11½ feet wide. The nursing station (picture 2) is centrally located in each unit and equipped for economical and efficient service, including voice communication with each patient.

With the welfare of the study patient as a primary consideration, facilities have been provided to make their stay in the Clinical Center as comfortable to them as practicable. A chapel (picture 3) provides regular Protestant, Hebrew, and Catholic services, and clergymen of each faith have offices in the Center. Recrea-

